Water cleanup begins

By John Fleck
Staff Writer

PASADENA — Ten years after toxic waste began appearing in city wells, 7,000 gallons per minute of clean water will start flowing today from one of the largest water cleanup plants in California.

Nestled beneath oak trees on the east bank of the Arroyo Seco a five-minute walk from the Jet Propulsion Laboratory, the plant's two 55-foot-high towers will strip away chemicals that city officials believe came from dumping pits used by JPL from the 1940s to the early 1960s.

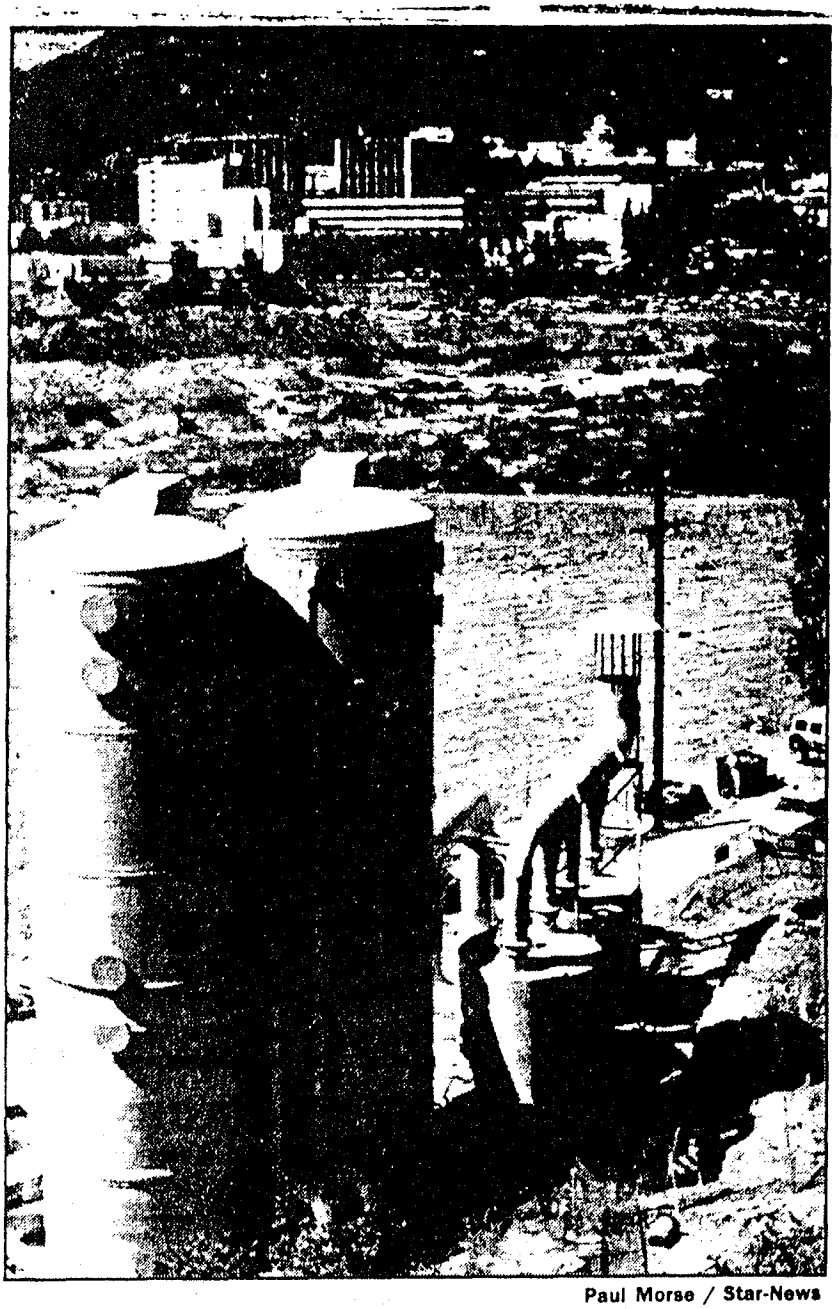
The completion of the temporary treatment plant allows the city's water department to begin using four shut-down wells — some that have been out of service as long as five years because of the contamination — while a long-range plan is developed to clean up the contaminated groundwater basin.

The amount of water involved is substantial; on an annual basis, the plant will be able to provide as much of one quarter of the water used by Pasadenans, according to Susan Nielsen, the water department engineer in charge of the cleanup.

Tests on the cleaned-up water will be done today; if the samples meet federal standards, the water will be pumped to Pasadena residents beginning Sunday, Nielsen said.

The cleanup plant is the product of a delicately negotiated deal between the city of Pasadena and JPL. Under the agreement, JPL did not admit direct responsibility for the contamination, but agreed to fund the temporary cleanup plant and defray some city expenses associated with buying more expensive imported water from the Metropolitan Water District while the wells remained closed.

The two sides continue to negotiate long-range cleanup costs.



Paul Morse / Star-News

Cleanup: JPL, in background, helped pay for treatment plant.

The plant operates on the simple principle that the chemicals in the water evaporate easily in air. The water is pumped into the top of the plant's two towers and down across a series of baffles; air is pumped in the bottom, and the chemicals evaporate into the air.

The air is then sucked off and forced through two large carbon filters, which clean the chemicals out of the air before it vents to the outside.

JPL, which is operated for NASA by Caltech, has never directly admitted responsibility for the contamination, but a study funded jointly by the institution and the city concluded that "the most likely source (of the pollutants) is JPL."

A 1988 study for the Environmental Protection Agency identified six pits where chemical wastes from JPL, including solvents, Freon, mercury, rocket fuel and sulfuric acid, were disposed of in the 1940s and '50s.

One of the pits was located outside of JPL's boundaries in the Arroyo Seco Wash about 750 feet from the city's most polluted well.

JPL officials say that they have not dumped chemicals since 1962, a contention the city does not dispute. Prior to that

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Launch window may close on JPL

By John Fleck
Staff Writer

NASA's space shuttle Discovery, being readied to launch JPL's Ulysses mission to the sun, has sprung a coolant leak, space agency officials said Thursday.

The leak could force several days of delay in Discovery's launch, NASA officials said Thursday. If NASA cannot launch Discovery and its Ulysses payload by Oct. 23, it will have to wait until November 1991 to try again.

The coolant leak compounds the problems created for NASA when a hydrogen leak forced the cancellation of Thursday morning's launch of the shuttle Columbia.

The two problems have squeezed NASA's launch schedule. Columbia, originally scheduled to take off in May with the Astro observatory on board, now sits on Launch Pad A at the Kennedy Space Center. Hydrogen leaks have delayed its launch.

Backed up behind it on the schedule is Discovery, now sitting 1½ miles away on Launch Pad B, with a narrow launch window that NASA officials say gives it top priority.

NASA Administrator Richard Truly said Thursday the space agency still hopes to get Columbia off by mid-September, leaving enough time to prepare Discovery and its Ulysses solar probe for launch.

The question of scheduling has become critical because of Ulysses' 19-day launch window.

Before heading for the sun, Ulysses needs to fly first to Jupiter; it will take advantage of the massive planet's gravity to orient itself properly for its planned orbit around the sun's poles. But Earth and Jupiter will be in the proper alignment to make the orbit work only if Ulysses is launched within a 19-day period beginning Oct. 5. If the launch period is missed, NASA will have to wait until late 1991 to try again.

Repair of Discovery's coolant leak may cut into that window by several days, NASA officials said during a news briefing Thursday, but the leak should be fixed in time for launch.

Because of Ulysses' narrow launch window, NASA will delay Columbia's launch if necessary in order to get the solar study mission off the ground on time.

"We think we have a shot at getting Astro off before Ulysses, but Ulysses is our first priority, and we will not compromise that," William Lenoir, head of NASA's space flight program.

NASA officials say they need about three weeks after Columbia's launch to prepare for Discovery's. Their current plan is to replace Columbia's leaking hydrogen pump, with the hope that they can launch Columbia and Astro early in the week of Sept. 17. They said that should leave them enough time to get Discovery ready to blast off within Ulysses' launch window.

NASA's shuttle fleet has been grounded since April because of persistent hydrogen leaks. The space agency originally planned nine shuttle missions for this year, but only three have flown so far. Prior to Thursday's Columbia launch cancellation, that number had been reduced to six, and it was not clear whether it would drop further if Columbia and its Astro payload cannot be launched ahead of Ulysses.

Ulysses was built by the European Space Agency and will be operated by JPL for NASA. On its mission it will fly past the sun's north and south poles, giving solar physicists a new vantage point on the sun.

Virtually all previous space missions and all ground-based observations have been performed from the plane of the sun's equator. Ulysses will give scientists their first opportunity to sample the magnetic fields and high-energy particles thrown off by the sun in other directions.

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time, chemical dumping was routine in industry because its danger was not understood.

The toxic chemicals found in city well water — trichloroethylene, carbon tetrachloride and perchlorethylene — are solvents, frequently used to clean metal parts. A fourth chemical, 1.2-dichloroethane, a by-product of trichloroethylene, was found in September 1989.

The concentrations of all four chemicals in Pasadena's wells exceed EPA safety levels.